No. 4 in a Five-part Series

Making SENSE of MERCURY fact sheet

Health risks of mercury exposure

Mercury is a naturally occurring element that has several forms. Mercury is toxic. Exposure to mercury – even small amounts – may cause serious health problems. People can be exposed to mercury through skin contact, by eating contaminated fish or by breathing mercury vapors that are invisible and odorless.

Mercury is released into the environment from many sources. Mercury is found in air, water and soil. It becomes airborne when rocks erode, volcanoes erupt and soil decomposes. Mercury then circulates in the atmosphere and is redistributed throughout the environment.

Human activities, such as burning coal, oil and natural gas, burning household trash, and mining ore deposits, add mercury to the environment. Once in the air, mercury falls to the ground with rain, sleet and snow, landing on soil or water bodies and causing contamination.

In addition, many common products that we use every day contain mercury and may contaminate the environment when disposed of in a landfill, burned or poured down a drain. Mercury also may enter water bodies through a direct discharge of industrial waste or municipal sewage. A less common exposure to mercury is when elemental mercury or products containing elemental mercury break and release mercury vapors into the air.

Mercury has been a very useful element throughout history. (To learn more, see the “What is mercury?” and the “Mercury in the home” fact sheets in this series.)

The most common way people in the United States are exposed to mercury is by eating fish containing methylmercury – a form of mercury. (Please see the “What is mercury?” and “Mercury in the environment” fact sheets in this series.) Other exposures may result from using or breaking products containing mercury.

Whether exposure to mercury will harm a person’s health depends on several factors including: the type of mercury; the dose (how much); the duration (how long); route of exposure (eating, breathing, injecting, touching); and characteristics of the person (age and health).

All mercury is toxic.

Although some forms of mercury are more dangerous than others, all are toxic. (To learn more about the different forms of mercury, please see the “What is mercury?” fact sheet in this series.) Depending on the type and amount, exposures to mercury can damage the nervous system, kidneys, liver and immune system.

Symptoms of mercury poisoning

- Vision, speech, hearing and walking impairment
- Numbness in hands, feet and sometimes around the mouth
- Uncoordinated movement
- Muscle weakness
- Skin rashes
- Mood swings, memory loss and mental disturbances

Fish Consumption Advisories

The S.C. Department of Health and Environmental Control provides a “Fish Consumption Advisories” booklet.

To receive a copy, call **1-888-849-7241**. The booklet also is available online at **www.scdhec.gov/fish**.

Breathing mercury vapors can harm the nervous system, lungs and kidneys. Mercury vapors can pass easily from the lungs to the bloodstream. Elemental (also known as metallic) mercury, the shiny silver-white liquid found in some thermometers and switches, is most dangerous when inhaled and must be handled with care.

Mercury is especially dangerous to pregnant women.

Children of women who consumed large amounts of contaminated fish during pregnancy are at highest risk of mercury-related developmental problems. The Centers for Disease Control and Prevention estimates that one in 12 women in the United States carries mercury levels that are unsafe for a developing fetus. Mercury exposure in the womb – which can result from a mother's consumption of fish and shellfish that contain methylmercury – can adversely affect a baby's growing brain and nervous system.

The National Research Council estimates that each year about 60,000 children might be born in this country with permanent, irreversible neurological problems because of mercury exposure before birth. Fetuses, infants and young children are four to five times more sensitive to mercury exposure than adults. High levels of mercury can impair a child's physical and mental development, including motor skills, learning capacity and memory.

A national advisory issued in March 2004 says that women who are pregnant, may become pregnant or are nursing, and children under 14 should only eat one meal of freshwater fish each week. The advisory also says that they should not eat king mackerel, shark, swordfish and tilefish. This advisory includes fresh, frozen and canned fish that you buy in a store or restaurant.

To learn more about this advisory, visit **www.epa.gov/ost/fish** or call the U.S. Food and Drug Administration at **1-888-SAFE-FOOD**.

Children under 14 are most sensitive to mercury.

The developing brains and nervous systems of children are very sensitive to mercury and may be irreversibly damaged by it. Children can be exposed to methylmercury by eating certain types of fish or if their mothers ate mercury-contaminated fish before their birth.

Breaking mercury-containing products such as thermometers used in homes and schools can also result in exposure to mercury.

Families can reduce their risk.

- Look for and follow state and national fish consumption advisories.
- Consider not buying products that contain mercury such as thermometers – buy a digital thermometer instead.
- Carefully handle, properly dispose of or recycle products that contain mercury.
- Do not use a vacuum to clean up a mercury spill (see the "Cleaning up mercury spills" fact sheet in this series).
- Properly dispose of older medicines that contain mercury.
- Keep all mercury away from children and pets.

Consult a doctor.

Anyone who has concerns about mercury exposure should consult a doctor. Doctors may be able to identify exposure and health risks.

For more information on the health effects of mercury exposure, please call DHEC's Office of Environmental Community Health at **1-888-849-7241** or visit **www.scdhec.gov/mercury**.

For more information on the health effects of mercury exposure, please visit **www.epa.gov/mercury/effects.htm**.

You also can visit the Agency for Toxic Substances and Disease Registry at **www.atsdr.cdc.gov/toxprofiles/tp46.html** for a toxicological profile of mercury.

For more information, visit **www.scdhec.gov/mercury** or call the S.C. Department of Health and Environmental Control's Office of Environmental Community Health at **1-888-849-7241**. Information for this fact sheet was provided courtesy of the **U.S. Environmental Protection Agency** and the **Agency for Toxic Substances and Disease Registry**.

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